



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/805,156

03/14/2001

Takayuki Hasebe

26.1701

1766

21171

7590

05/05/2006

STAAS & HALSEY LLP

SUITE 700

1201 NEW YORK AVENUE, N.W.

WASHINGTON, DC 20005

EXAMINER

SIMITOSKI, MICHAEL J

ART UNIT

PAPER NUMBER

2134

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/805,156

Applicant(s)

HASEBE ET AL.

Examiner

Michael J. Simitoski

Art Unit

2134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28, 43 and 44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2 and 11-18 is/are allowed.
- 6) ☒ Claim(s) 1, 3-12, 19-28, 43 and 44 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All. b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The response of 3/22/2006 was received and considered.
2. Claims 1-28, 43 & 44 are pending.
3. Claims 2 & 11-18 are allowed.
4. Claim 9 is objected to.

Response to Arguments

5. Applicant's arguments with respect to claims 1, 3-8, 10, 19-29 & 43-44 have been considered but are moot in view of the new ground(s) of rejection. However, any arguments that remain applicable to the cited references in this Office Action will be addressed.
6. Applicant's response (p. 10, ¶3) argues that although "Cisco discusses how the client must obtain the key pair from the server administrator and configure it to the client, Cisco fails to disclose the limitations recited on the last six lines of claim 1". However, as stated in the previous Office Actions, Cisco discloses configuring a network switch as an NTP client (p. 3), where the switch receives time-and-date setting requests from any date-and-time manager/NTP server (p. 3, ¶1) (Cisco explicitly discloses up to 10 server addresses, p. 3, #2). Further, once the "Authentication Disabled" box is deselected (i.e. authentication is required), the switch updates the time only from the servers that provide the correct authentication (i.e. predetermined date-and-time manager). The clock unit on the switch sets the date-and-time (pp. 1-3) in accordance with the date-and-time request most recently accepted by said date-and-time request reception unit (changes time each instance) (p. 3, ¶1) and indicates official valid date-and-time information

Art Unit: 2134

(information from an NTP server) (p. 3) in accordance with the date-and-time setting request from the predetermined date-and-time manager/NTP server (p. 3).

7. The Examiner notes that the common knowledge or well-known in the art statements relied upon in the previous Office Actions (3/22/2005 and 10/19/2005) is taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of official notice or that the traverse was inadequate.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 1, 3-10, 19-28 & 43-44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Regarding claims 1, 19, 20 & 43, the specification does not describe the limitation "official" so as to enable one having ordinary skill in the art to indicate an official valid date-and-time information. For the purposes of this Office Action, "official" is understood to be related to an authority.

10. Claims 1, 3-10, 19-28 & 43-44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 1, 19, 20 & 43, the limitation "official" is a relative term.

11. All claim rejection are made as best understood.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

13. Claims 1 & 3 are rejected under 35 U.S.C. 102(a) as being anticipated by “System Time Management” by Cisco Systems, Inc (Cisco), April 2000.

Regarding claim 1, Cisco discloses a date-and-time management apparatus/switch comprising a date-and-time setting request reception unit/switch (p. 1, ¶¶2-5) accepting a date-and-time setting request/time from any date-and-time manager/NTP server (p. 3, §Configuring the Switch as an NTP Client, specifically #2) before accepting a request from a predetermined date-and-time manager/authenticated NTP server (p. 3, §Configuring NTP Authentication), and accepting a date-and-time setting request only from the specified date-and-time manager/authenticated NTP server after accepting a date-and-time setting request from the specified date-and-time manager/authenticated NTP server (p. 3, § Configuring NTP Authentication) and a clock unit/clock (p. 1) setting date and time in accordance with the date-and-time setting request most recently accepted by said date-and-time setting request reception unit/switch (p. 1 & p. 3, §Configuring NTP Authentication, ¶1) and indicating official valid date-and-time information (information from an NTP server) (p. 1 & p. 3) or date-and-time information with validity which complies with official valid date-and-time information after the

Art Unit: 2134

date and time of said clock unit is set in accordance with the date-and-time setting request/NTP response from the predetermined date-and-time manager/NTP server (p. 3).

Regarding claim 3, Cisco discloses a date-and-time management device/switch (p. 3) for a manager on the date-and-time manager side (p. 1, ¶1-4), wherein said date-and-time management device for the manager comprises a date-and-time setting request unit/switch for issuing to said date-and-time setting request reception unit/switch a copy request/synchronization request (p. 3) for a date-and-time managed by said device/switch as the date-and-time setting request.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cisco, as applied to claim 3 above. Cisco is silent regarding the delivery of the date-and-time management device for the manager. However, the Examiner takes Official Notice that initializing a product such as a date-and-time management device upon delivery is old and well established in the art of communication equipment distribution as a method of activating a product. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cisco to provide a deliverer with a date and time setting device for setting the initial date and time of the date-and-time management device for each manager/NTP server upon delivery.

Art Unit: 2134

One of ordinary skill in the art would have been motivated to perform such a modification to activate the device and enable use. This advantage is well known to those skilled in the art.

16. Claims 4-6, 19-22 & 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Cisco**, as applied to claims 3 & 11 above, in further view of Handbook of Applied Cryptography by Menezes et al. (**Menezes**).

Regarding claims 4-6, Cisco discloses a copy data generation unit/switch for generating data for copying of the date and time (updating the time) (p. 3), but lacks using non-reproducible information received from the management device that accepted the request and the date-and-time managed by said management device that issued the date-and-time request. However, Menezes teaches that to prevent replay attacks in protocols, nonces are used, which is a non-repeating value included in the protocol messages (pp. 397-398, §10.3.1). Menezes further teaches that when transporting keys from an authority to a user, digital signatures are used to authenticate the data (p. 507, ¶2 & p. 570, Remark 13.37) and can include non-repeating values such as sequence numbers to prevent replay attacks (p. 570, Remark 13.37). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cisco to generate data for copy of the date-and-time by encrypting the information about the managed date-and-time (date and time) and the non-reproducible information (random/nonce) to generate the data for copy of the date and time (updated, verified time). One of ordinary skill in the art would have been motivated to perform such a modification to verify that a time has not been modified (data verification) and that the time update has not been replayed, as taught by Menezes (pp. 397-398, §10.3.1, p. 507, ¶2 & p. 570, Remark 13.37).

Art Unit: 2134

Regarding claims 19 & 20, Cisco discloses a date-and-time management apparatus/switch comprising a date-and-time setting request reception unit/switch (p. 1, ¶¶2-5) accepting a date-and-time setting request/time from any date-and-time manager/NTP server (p. 3, §Configuring the Switch as an NTP Client, specifically #2) before accepting a request from a predetermined date-and-time manager/authenticated NTP server (p. 3, §Configuring NTP Authentication), and accepting a date-and-time setting request only from the specified date-and-time manager/authenticated NTP server after accepting a date-and-time setting request from the specified date-and-time manager/authenticated NTP server (p. 3, § Configuring NTP Authentication) and a clock unit/clock (p. 1) setting date and time in accordance with the date-and-time setting request most recently accepted by said date-and-time setting request reception unit/switch (p. 1 & p. 3, §Configuring NTP Authentication, ¶1) and indicating official valid date-and-time information (information from an NTP server) (p. 1 & p. 3) or date-and-time information with validity which complies with official valid date-and-time information after the date and time of said clock unit is set in accordance with the date-and-time setting request/NTP response from the predetermined date-and-time manager/NTP server (p. 3). Cisco lacks a signature generation unit generating a signature for input data to be signed according to information about a date-and-time indicated by said clock unit. However, Menezes teaches that a trusted time stamping service provides a user with a dated receipt by appending a timestamp to a document and signing the composite document (p. 581, §13.8.1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the network time protocol described by Cisco in a trusted time stamping service. One of ordinary

Art Unit: 2134

skill in the art would have been motivated to perform such a modification to provide a user with a dated receipt, as taught by Menezes (p. 581, §13.8.1).

Regarding claims 21 & 25, Cisco, as modified above, lacks explicitly a signature stop unit. However, the examiner takes Official Notice that stopping a calculation when a required input is unavailable is old and well established in the art of data processing as a method of avoiding invalid results. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cisco to include a signature stop unit to stop the signature generation unit when an operation stop of said clock unit is detected. One of ordinary skill in the art would have been motivated to perform such a modification to avoid invalid time stamping results, as a time will not be inputted. This advantage is well known to those skilled in the art.

Regarding claims 22 & 26, Cisco, as modified above, discloses one ore more functions/switching packets.

17. Claims 8 & 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Cisco**, as applied to claims 1 & 2 above, in further view of U.S. Patent 6,157,957 to **Berthaud**.

Regarding claim 8, Cisco, as described above, lacks a nonvolatile storage memory storing correction information for improving precision of said clock unit. However, Berthaud teaches that to guarantee a pre-specified precision, correction information/conversion function information is calculated (col. 9, lines 19-29) and stored in non-volatile memory (col. 7, lines 1-5). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cisco to include a nonvolatile storage unit storing correction

Art Unit: 2134

information. One of ordinary skill in the art would have been motivated to perform such a modification to guarantee precision, as taught by Berthaud (col. 7, lines 1-5 & col. 9, lines 19-29)

Regarding claim 10, Cisco is silent regarding a secondary battery. However, the examiner takes Official Notice that including a secondary battery, as a power source to a clock is old and well established in the art of electronic, clocked devices as a method of retaining power to the clock if the power to the device is removed. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cisco to include a secondary battery as a power source of said clock unit. One of ordinary skill in the art would have been motivated to perform such a modification to retain clock functionality when power is removed. This advantage is well known to those skilled in the art.

18. Claims 23 & 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Cisco & Menezes**, as applied to claims 19 & 20 above, in further view of U.S. Patent 5,444,780 to Hartman, Jr. (**Hartman**). Cisco, as modified above, lacks storing information about a date-and-time setter who has issued a date-and-time setting request and generating a signature according to the information about the date-and-time setter in addition to the date-and-time information. However, Hartman teaches that in some schemes for sending an updated time from a device to a client, the device encrypts an authenticated code using a secret key, a time value and an authenticated device ID (col. 2, lines 30-45). This is done to establish trust between the device and the client (col. 1, line 66 – col. 2, line 3). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cisco to store date-

Art Unit: 2134

and-time setter information and generate a signature according to information about the date-and-time setter. One of ordinary skill in the art would have been motivated to perform such a modification to establish trust between the date-and-time setter and the management device, as taught by Hartman (col. 1, line 66 – col. 2, line 3 & col. 2, lines 30-45).

19. Claims 24 & 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Cisco & Menezes**, as applied to claims 19 & 20 above, in further view of U.S. Patent 6,199,169 to **Voth**. Cisco discloses authenticating the NTP messages (p. 3), but lacks storing a number of setting requests and generating the signature according to information about the frequency information in addition to the date-and-time information. However, Voth teaches that to update distributed time devices with variable transmission delay (col. 2, lines 27-44), it is useful to send the adjustment time/date-and-time info and time changes/frequency information (col. 5, lines 6-17). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cisco to store a number of setting requests/time changes and to include this information in the signature. One of ordinary skill in the art would have been motivated to perform such a modification to update distributed time devices with variable transmission delay with authenticated time correction information, as taught by Voth (col. 2, lines 27-44 & col. 5, lines 6-17).

20. Claims 43-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,717,955 to **Swinehart** in view of **Cisco**. Swinehart discloses management devices/UserAgents, each including a setting request (col. 11, lines 25-35), and user

Art Unit: 2134

devices/DeviceAgents, each including a reception unit accepting an initial setting request (col. 11, lines 56-60) from any management device/UserAgent before accepting a prioritized setting request from a specified management device/UserAgent claiming ownership (owner has priority), and accepting subsequent settings requests only from the specified management device/UserAgent claiming ownership after accepting the prioritized setting request from the specified management device/UserAgent claiming ownership (col. 11, lines 44-46). Swinehart lacks the request being a setting request for date and time and lacks a clock unit setting the date and the time in response to each setting request accepted by said reception unit. However, Cisco teaches a reception unit/switch receiving a setting request for date and time (p. 3, ¶1) and a clock unit/switch setting the date and the time in response to each setting request accepted by said reception unit/switch (p. 3, ¶1) and indicating official valid date-and-time information (information from NTP server) (pp. 1-3) or date-and-time information with validity which complies with official valid date-and-time information after the date and time of said clock unit/switch is set by the setting request from the specified management device/authenticated NTP server (p. 3, §Configuring NTP Authentication). This is beneficial because a network switch can be temporally synchronized regularly (p. 3, ¶1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Swinehart's ownership control techniques to allow the UserAgent to take control of a DeviceAgent's time setting function and to include a clock unit setting in the general purpose computing device setting the date and time. One of ordinary skill in the art would have been motivated to perform such a modification to update the time on the client, as taught by Cisco (p. 3, ¶1).

Allowable Subject Matter

21. Claims 2 & 11-18 are allowed.
22. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
23. The following is a statement of reasons for the indication of allowable subject matter:
 - a. Regarding claims 2 & 11-18, the prior art relied upon fails to teach or suggest accepting a date-and-time setting request only from a date-and-time manager at a higher hierarchical level than the date-and-time manager whose request has been accepted before in combination with the other elements of the claims.
 - b. Regarding claim 9, the prior art relied upon fails to teach or suggest a correction information resetting unit resetting the correction information when said clock unit becomes short of power, power is applied to said unit and said date-and-time setting request reception unit accepts a date-and-time request.

Conclusion

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Simitoski whose telephone number is (571) 272-3841. The examiner can normally be reached on Monday - Thursday, 6:45 a.m. - 4:15 p.m.. The examiner can also be reached on alternate Fridays from 6:45 a.m. – 3:15 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis Jacques can be reached at (571) 272-6962.

Art Unit: 2134

Any response to this action should be mailed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Or faxed to:

(571) 273-8300
(for formal communications intended for entry)

Or:

(571) 273-3841 (Examiner's fax, for informal or draft communications, please label "PROPOSED" or "DRAFT")

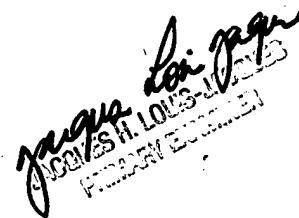
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJS



April 26, 2006



JAMES H. LOUIS
PATENT EXAMINER